



Sequence Listing

<110> CHUNTHARAPAI, ANAN
GREWAL, IQBAL
KIM, KYUNG JIN
YAN, MINHONG

<120> TACI Antibodies and Uses Thereof

<130> P1942R1

<140> US 10/626,914
<141> 2003-07-25

<150> US 60/398,530
<151> 2002-07-25

<160> 17

```
<210> 1
<211> 1377
<212> DNA
<213> Homo sapien
```

<400> 1
agcatcctga gtaatgagtgcctggccggcaggacggcgtttccacgggcctgtgacgggggtg 50
gctatgagat cctgccccga agagcagtac tgggatcctctgttgatggatccatctgttcc 100
ctgcatgtcc tgcaaaacca tttgcaacca tcagagccag cgcacactgtgcggatccatct 150
cagccttctg caggtcactc agctgccgca aggagcaagg caagttcttatgttccatctgttcc 200
gaccatctcc tgagggactg catcagctgt gcctccatctgttccatctgttccatctgttcc 250
ccctaagcaa tgtgcataact tctgtgagaa caagctcagg agcccaagtgttccatctgttcc 300
accttccacc agagctcagg agacagcgatggagaagt tgaaaacaatgttccatctgttcc 350
tcagacaact cgggaaggta ccaaggatttgcgacacagag gctcagaagcttccatctgttcc 400
aagtccagct ctcccggggc tgaagctgatgcagatcaggatggccctgg 450
tctacagcac gctggggctc tgcctgtgtgcgttccatctgttccatctgttccatctgttcc 500
gtggcggtgg cctgcttccatctgttccatctgttccatctgttccatctgttccatctgttcc 550
gccccgtca aggccccgtcaaaagtccggcaagtcgttccatctgttccatctgttccatctgttcc 600
cgatggaagc cggcagccctgtgagcacatccccgagccatggagacc 650
tgcagcttctgttccatctgttccatctgttccatctgttccatctgttccatctgttccatctgttcc 700
cacgcctggg acccccgacc ccacttgtgc tggaaagggtgg gggtgccaca 750
ccaggaccac agtcctgcag ccttgccac acatcccaaga cagtggcccttccatctgttccatctgttcc 800
ccaggaccac agtcctgcag ccttgccac acatcccaaga cagtggcccttccatctgttccatctgttcc 850

ggcattgtgt gtgtgcctgc ccaggagggg ggcccaggtg cataaatggg 900
ggtcagggag ggaaaggagg agggagagag atggagagga ggggagagag 950
aaagagaggt ggggagaggg gagagagata tgaggagaga gagacagagg 1000
aggcagaaag ggagagaaac agaggagaca gagagggaga gagagacaga 1050
gggagagaga gacagagggg aagagaggca gagagggaaa gaggcagaga 1100
aggaaagaga caggcagaga aggagagagg cagagagggg gagaggcaga 1150
gagggagaga ggcagagaga cagagagggg gagagggaca gagagagata 1200
gagcaggagg tcggggcact ctgagtccta gttccctgtc cagctgttagg 1250
tcgtcatcac ctaaccacac gtgcaataaa gtcctcggtc ctgctgctca 1300
cagccccga gagccctcc tcctggagaa taaaacctt ggcagctgcc 1350
cttcctcaaa aaaaaaaaaa aaaaaaaa 1377

<210> 2
<211> 1377
<212> DNA
<213> Homo sapien

<400> 2
ttttttttt tttttttttt gaggaaggc agctgc当地 50
tccaggagga gggctctcg gggctgtga gcagcaggca cgaggacttt 100
atgcacgtg tggtaggtg atgacgacct acagctgc当地 tggactgg 150
gactcagagt gccccgaccc cctgctctat ctctctctgt ccctctctcc 200
ctctctgtct ctctgc当地 ctccctctct gcctctctcc ctctctgc当地 250
ctctcctct ctgc当地 ctccctctct ctgc当地 ctccctctgc 300
ctctcttccc ctctgtctct ctctccctct gtctctctct ccctctctgt 350
ctcctctgtt tctctccctt tctgc当地 ctgtctctct ctccctcatat 400
ctctctcccc tctccccacc tctcttctc tctccctcc tctccatctc 450
tctccctccct cttccctcc cctgaccccc atttatgc当地 ctggcccccc 500
ctcctggca ggcacacaca caatgc当地 ag gccactgtct gggatgtgtg 550
ggcaaggctg caggactgtg gtc当地 ggtgt ggcacccccca cttccagca 600
caagtgggt cgggggtccc aggctgact gctctctct gc当地 gggcc 650
cctgcactca gggaaagcaga agctgc当地 gt ccactggc tc当地 gggatg 700
tgctcacagg gctgc当地 ctccatgc当地 gt ccctgggaa agacttggcc 750
ggactttgac gggcccttga gc当地 gggctgg caggagcagg gatccccct 800
cttcttgagg aagcaggcca cc当地 gaccaccag gaagcaggcag aggacggcac 850
acaggcagag cccacgtg ctgttagacca gggccacctg atctgc当地 900

agcttcagcc ccgggagagc tggacttgct tctgaggcctc tgtgtccaa 950
tccttggtag cttcccgagt tgtctgaatt gtttcaact tctccactcc 1000
gctgtctcct gagctctggt ggaagggtca ctgggctcct gagcttggtc 1050
tcacagaagt atgcacattg cttagggtgc tgtccacaga tggaggcaca 1100
gctgatgcag tccctcagga gatggtcata gaacttgcct tgctccttgc 1150
ggcagctgag tgacctgcag aaggctgcac aggtgcgctg gctctgatgg 1200
ttgcaaatgg ttttcagga catgcaggta cccagcagag gatcccagta 1250
ctgctcttcg gggcaggatc tcatagccac cccccgtccac aggccctgtg 1300
gaaagcgctc ctcctggtcc acacggctcc ggccacctcg cctgctccgg 1350
cccaggccac tcattactca ggatgct 1377

<210> 3
<211> 293
<212> PRT
<213> Homo sapien

<400> 3
Met Ser Gly Leu Gly Arg Ser Arg Arg Gly Gly Arg Ser Arg Val
1 5 10 15
Asp Gln Glu Glu Arg Phe Pro Gln Gly Leu Trp Thr Gly Val Ala
20 25 30
Met Arg Ser Cys Pro Glu Glu Gln Tyr Trp Asp Pro Leu Leu Gly
35 40 45
Thr Cys Met Ser Cys Lys Thr Ile Cys Asn His Gln Ser Gln Arg
50 55 60
Thr Cys Ala Ala Phe Cys Arg Ser Leu Ser Cys Arg Lys Glu Gln
65 70 75
Gly Lys Phe Tyr Asp His Leu Leu Arg Asp Cys Ile Ser Cys Ala
80 85 90
Ser Ile Cys Gly Gln His Pro Lys Gln Cys Ala Tyr Phe Cys Glu
95 100 105
Asn Lys Leu Arg Ser Pro Val Asn Leu Pro Pro Glu Leu Arg Arg
110 115 120
Gln Arg Ser Gly Glu Val Glu Asn Asn Ser Asp Asn Ser Gly Arg
125 130 135
Tyr Gln Gly Leu Glu His Arg Gly Ser Glu Ala Ser Pro Ala Leu
140 145 150
Pro Gly Leu Lys Leu Ser Ala Asp Gln Val Ala Leu Val Tyr Ser
155 160 165
Thr Leu Gly Leu Cys Leu Cys Ala Val Leu Cys Cys Phe Leu Val
170 175 180

Ala	Val	Ala	Cys	Phe	Leu	Lys	Lys	Arg	Gly	Asp	Pro	Cys	Ser	Cys
				185					190					195
Gln	Pro	Arg	Ser	Arg	Pro	Arg	Gln	Ser	Pro	Ala	Lys	Ser	Ser	Gln
				200				205						210
Asp	His	Ala	Met	Glu	Ala	Gly	Ser	Pro	Val	Ser	Thr	Ser	Pro	Glu
				215					220					225
Pro	Val	Glu	Thr	Cys	Ser	Phe	Cys	Phe	Pro	Glu	Cys	Arg	Ala	Pro
				230				235						240
Thr	Gln	Glu	Ser	Ala	Val	Thr	Pro	Gly	Thr	Pro	Asp	Pro	Thr	Cys
				245				250						255
Ala	Gly	Arg	Trp	Gly	Cys	His	Thr	Arg	Thr	Thr	Val	Leu	Gln	Pro
				260				265						270
Cys	Pro	His	Ile	Pro	Asp	Ser	Gly	Leu	Gly	Ile	Val	Cys	Val	Pro
				275				280						285
Ala	Gln	Glu	Gly	Gly	Pro	Gly	Ala							
				290										

<210> 4
<211> 995
<212> DNA
<213> Homo sapien

<400> 4
aagactcaaa cttagaaaact tgaatttagat gtggatttca aatccttacg 50
tgccgcgaag acacagacag cccccgttaag aacccacgaa gcaggcgaag 100
ttcattgttc tcaacattct agctgtctt gctgcatttg ctctgaaatt 150
ctttagaga tattacttgt cttccaggc tttttttctt gtagctccct 200
tgttttcttt ttgtgatcat gttgcagatg gctggcagt gctccaaaa 250
tgaatatttt gacagtttgt tgcatgttt cataccttgt caacttcgtat 300
gttcttctaa tactcctcct ctaacatgtc agcgttattt taatgcaatg 350
gtgaccaatt cagtgaaagg aacgaatgcg attctcttggc cctgtttggg 400
actgagctta ataatttctt tggcagtttt cgtgctaattt ttttgctaa 450
ggaagataag ctctgaacca ttaaaggacg agttaaaaaa cacaggatca 500
ggtctcctgg gcatggctaa cattgacctg gaaaagagca ggactggta 550
tgaaattttt cttccgagag gcctcgagta cacggtgaa gaatgcacct 600
gtgaagactg catcaagagc aaaccgaagg tcgactctga ccattgtttt 650
ccactcccag ctatggagga aggcgcaccc attcttgc tccacaaaaac 700
gaatgactat tgcaagagcc tgccagctgc tttgagtgtt acggagatag 750
agaaatcaat ttctgctagg taattaacca ttgcactcg agcagtgcac 800
ctttaaaaat ctttgcacat aatagatgtat gtgtcagatc tcttttaggt 850

gactgtattt ttcagttgcc gatacagctt tttgtcctct aactgtggaa 900
actctttatg ttagatatat ttctctaggt tactgttggg agcttaatgg 950
tagaaaacttc cttggtttca tgattaaagt ctttttttt cctga 995

<210> 5
<211> 995
<212> DNA
<213> Homo sapien

<400> 5
tcagggaaaaaaa aaaagacttt aatcatgaaa ccaaggaagt ttctaccatt 50
aagctcccaa cagtaaccta gagaaatata tctaacataa agagttcca 100
cagtttagagg acaaaaagct gtatcgccaa ctgaaaaata cagtcatcct 150
aaagagatct gacacatcat ctattctgac aaaagatttt taaagtggca 200
ctgctcgagt cgaaatggtt aattacctag cagaaattga tttctctatc 250
tccgttagcac tcaaaggcagc tggcaggctc ttgcaatagt cattcgaaaa 300
cgtggtgaca agaatggttg cgccttcctc catagctggg agtggaaagc 350
aatggtcaga gtcgaccccttc ggtttgcgtc tgatgcagtc ttccacaggtg 400
cattcttcca ccgtgtactc gaggcctctc ggaagaataa tttcatcacc 450
agtcctgctc tttccaggt caatgttagc catgcccagg agacctgatc 500
ctgtgtttt aaactcgtcc tttaatggtt cagagcttat ctcccttagc 550
aaaaacatta gcacgaaaac tgccaaagaa attattaagc tcagtcctaa 600
acaggtccag agaatcgcat tcgttcctt cactgaattt gtcacacttg 650
cattacaata acgctgacat gtttagaggag gaggattttaga agaacatcga 700
agttgacaag gtatgcaagc atgcaacaaa ctgtcaaaat attcattttg 750
ggagcactgc ccagccatct gcaacatgtat cacaaaaaga aaacaaggga 800
gctacagaaa gaacagcctg gaaggacaag taatatctct acaagaattc 850
cagagcaaat gcagcaagag cagctagaat gttgagaaca atgaacttcg 900
cctgcttcgt gggttcttac gggggctgtc tgtgtcttcg cggcacgtaa 950
ggatttgaat accacatcta attcaagttt ctaagtttga gtctt 995

<210> 6
<211> 184
<212> PRT
<213> Homo sapien

<400> 6
Met Leu Gln Met Ala Gly Gln Cys Ser Gln Asn Glu Tyr Phe Asp
1 5 10 15
Ser Leu Leu His Ala Cys Ile Pro Cys Gln Leu Arg Cys Ser Ser
20 25 30

Asn	Thr	Pro	Pro	Leu	Thr	Cys	Gln	Arg	Tyr	Cys	Asn	Ala	Ser	Val
				35					40					45
Thr	Asn	Ser	Val	Lys	Gly	Thr	Asn	Ala	Ile	Leu	Trp	Thr	Cys	Leu
				50					55					60
Gly	Leu	Ser	Leu	Ile	Ile	Ser	Leu	Ala	Val	Phe	Val	Leu	Met	Phe
				65					70					75
Leu	Leu	Arg	Lys	Ile	Ser	Ser	Glu	Pro	Leu	Lys	Asp	Glu	Phe	Lys
				80					85					90
Asn	Thr	Gly	Ser	Gly	Leu	Leu	Gly	Met	Ala	Asn	Ile	Asp	Leu	Glu
				95					100					105
Lys	Ser	Arg	Thr	Gly	Asp	Glu	Ile	Ile	Leu	Pro	Arg	Gly	Leu	Glu
				110					115					120
Tyr	Thr	Val	Glu	Glu	Cys	Thr	Cys	Glu	Asp	Cys	Ile	Lys	Ser	Lys
				125					130					135
Pro	Lys	Val	Asp	Ser	Asp	His	Cys	Phe	Pro	Leu	Pro	Ala	Met	Glu
				140					145					150
Glu	Gly	Ala	Thr	Ile	Leu	Val	Thr	Thr	Lys	Thr	Asn	Asp	Tyr	Cys
				155					160					165
Lys	Ser	Leu	Pro	Ala	Ala	Leu	Ser	Ala	Thr	Glu	Ile	Glu	Lys	Ser
				170					175					180

Ile Ser Ala Arg

```

<210> 7
<211> 858
<212> DNA
<213> Homo sapien

<400> 7
atggatgact ccacagaaag ggagcagtca cgccttaccc tttgccttaa 50
aaaaagagaa gaaatgaaac tgaaggagtg tgttccatc ctccccacgga 100
aggaaaagccc ctctgtccga tcctccaaag acggaaagct gctggctgca 150
accttgctgc tggcactgct gtcttgctgc ctcacgggtgg tgtctttcta 200
ccaggtggcc gccctgcaag gggacctggc cagcctccgg gcagagctgc 250
agggccacca cgccggagaag ctgccagcag gagcaggagc ccccaaggcc 300
ggcttggagg aagctccagc tgtcaccccg ggactgaaaa tctttgaacc 350
accagctcca ggagaaggca actccagtca gaacagcaga aataagcgtg 400
ccgttcaggg tccagaagaa acagtcactc aagactgctt gcaactgatt 450
gcagacagtg aaacaccaac tataaaaaaa ggatcttaca catttgttcc 500
atggcttctc agctttaaaa gggaaagtgc cctagaagaa aaagagaata 550
aaatatttgtt caaaagaaact ggttactttt ttatatatgg tcaggttta 600

```

tatactgata agacctacgc catggacat ctaattcaga ggaagaaggt 650
ccatgtcttt gggatgaat tgagtctggt gactttgttt cgatgtattc 700
aaaatatgcc tgaaacacta cccaataatt cctgctattc agctggcatt 750
gcaaaaactgg aagaaggaga tgaactccaa ctgcataac caagagaaaa 800
tgcacaaata tcactggatg gagatgtcac attttttgtt gcattgaaac 850
tgctgtga 858

<210> 8
<211> 858
<212> DNA
<213> Homo sapien

<400> 8
tcacagcagt ttcaatgcac caaaaaatgt gacatctcca tccagtgata 50
tttgtgcatt ttctcttggt attgcaagtt ggagttcatc tccttcttcc 100
agtttgcaa tgccagctga atagcagggaa ttattggta gtgttcagg 150
catatttga atacatcgaa acaaagtac acagactcaat tcataccccaa 200
agacatggac ctcttcctc tgaatttagat gtcccatggc gtaggtctta 250
tcagtatata aaacctgacc atatataaaa aagtaaccag tttcttgac 300
caatattta ttctctttt cttctagggc acttcccctt ttaaagctga 350
gaagccatgg aacaaatgtg taagatcctt tttgtatagt tggtgtttca 400
ctgtctgaa tcagttgcaa gcagtcttga gtgactgttt cttctggacc 450
ctgaacggca cgcttatttc tgctgttctg actggagttg cttctccctg 500
gagctggtgg ttcaaagatt ttcagtcctt cggtgacagc tggagcttcc 550
tccaagccgg ccttgggggc tcctgctcct gctggcagct tctccgcgtg 600
gtggccctgc agctctgccc ggaggctggc caggtcccct tgcagggcgg 650
ccacctgta gaaagacacc accgtgagggc agcaagacag cagtgcac 700
agcaaggttg cagccagcag cttccgtct ttggaggatc ggacagaggg 750
gctttccctc cgtgggagga tggaaacaca ctccttcagt ttcatttctt 800
ctctttctt aaggcaagaa gtaaggcgtg actgctccct ttctgtggag 850
tcataccat 858

<210> 9
<211> 285
<212> PRT
<213> Homo sapien

<400> 9
Met Asp Asp Ser Thr Glu Arg Glu Gln Ser Arg Leu Thr Ser Cys
1 5 10 15

Leu	Lys	Lys	Arg	Glu	Glu	Met	Lys	Leu	Lys	Glu	Cys	Val	Ser	Ile
				20					25				30	
Leu	Pro	Arg	Lys	Glu	Ser	Pro	Ser	Val	Arg	Ser	Ser	Lys	Asp	Gly
				35					40				45	
Lys	Leu	Leu	Ala	Ala	Thr	Leu	Leu	Ala	Leu	Leu	Ser	Cys	Cys	
				50					55				60	
Leu	Thr	Val	Val	Ser	Phe	Tyr	Gln	Val	Ala	Ala	Leu	Gln	Gly	Asp
				65					70				75	
Leu	Ala	Ser	Leu	Arg	Ala	Glu	Leu	Gln	Gly	His	His	Ala	Glu	Lys
				80					85				90	
Leu	Pro	Ala	Gly	Ala	Gly	Ala	Pro	Lys	Ala	Gly	Leu	Glu	Glu	Ala
				95					100				105	
Pro	Ala	Val	Thr	Ala	Gly	Leu	Lys	Ile	Phe	Glu	Pro	Pro	Ala	Pro
				110					115				120	
Gly	Glu	Gly	Asn	Ser	Ser	Gln	Asn	Ser	Arg	Asn	Lys	Arg	Ala	Val
				125					130				135	
Gln	Gly	Pro	Glu	Glu	Thr	Val	Thr	Gln	Asp	Cys	Leu	Gln	Leu	Ile
				140					145				150	
Ala	Asp	Ser	Glu	Thr	Pro	Thr	Ile	Gln	Lys	Gly	Ser	Tyr	Thr	Phe
				155					160				165	
Val	Pro	Trp	Leu	Leu	Ser	Phe	Lys	Arg	Gly	Ser	Ala	Glu	Glu	
				170					175				180	
Lys	Glu	Asn	Lys	Ile	Leu	Val	Lys	Glu	Thr	Gly	Tyr	Phe	Phe	Ile
				185					190				195	
Tyr	Gly	Gln	Val	Leu	Tyr	Thr	Asp	Lys	Thr	Tyr	Ala	Met	Gly	His
				200					205				210	
Leu	Ile	Gln	Arg	Lys	Lys	Val	His	Val	Phe	Gly	Asp	Glu	Leu	Ser
				215					220				225	
Leu	Val	Thr	Leu	Phe	Arg	Cys	Ile	Gln	Asn	Met	Pro	Glu	Thr	Leu
				230					235				240	
Pro	Asn	Asn	Ser	Cys	Tyr	Ser	Ala	Gly	Ile	Ala	Lys	Leu	Glu	
				245					250				255	
Gly	Asp	Glu	Leu	Gln	Leu	Ala	Ile	Pro	Arg	Glu	Asn	Ala	Gln	Ile
				260					265				270	
Ser	Leu	Asp	Gly	Asp	Val	Thr	Phe	Phe	Gly	Ala	Leu	Lys	Leu	
				275					280				285	

<210> 10
<211> 1348
<212> DNA
<213> Homo sapien

<400> 10
ggtagaggc ttccataggc gactggaacc taattctcct gaggttgagg 50
gagggtggag ggtctcaagg caacgctggc cccacgacgg agtgcagga 100

gcactaacag tacccttagc ttgcttcct cctccctcct ttttatttc 150
aagttcctt ttatccctcc ttgcgtaca accttcttcc cttctgcacc 200
actgcccgta cccttacccg ccccgccacc tccttgctac cccactctg 250
aaaccacagc tgttggcagg gtccccagct catgccagcc tcataccctt 300
tcttgctagc ccccaaaggc cctccaggca acatgggggg cccagtcaga 350
gagccggcac tctcagttgc cctctgggt agttgggggg cagctctggg 400
ggccgtggct tgtgccatgg ctctgctgac ccaacaaaca gagctgcaga 450
gcctcaggag agaggtgagc cggctgcagg ggacaggagg cccctccag 500
aatgggaaag ggtatccctg gcagagtctc ccggagcaga gttccgatgc 550
ccttggaaagcc tgggagaatg gggagagatc ccggaaaagg agagcagtgc 600
tcacccaaaa acagaagaag cagcactctg tcctgcacct gttcccatt 650
aacgccacct ccaaggatga ctccgatgtg acagaggtga tgtggcaacc 700
agctcttagg cgtgggagag gcctacaggc ccaaggatat ggtgtccgaa 750
tccaggatgc tggagtttat ctgctgtata gccaggtcct gttcaagac 800
gtgactttca ccatgggtca ggtgggtct cgagaaggcc aaggaaggca 850
ggagactcta ttccgatgtta taagaagtat gccctccac ccggaccggg 900
cctacaacag ctgctatagc gcaggtgtct tccatttaca ccaagggat 950
attctgagtg tcataattcc ccgggcaagg gcgaaactta acctctctcc 1000
acatggAACCC ttccctgggt ttgtgaaact gtgattgtgt tataaaaagt 1050
ggctcccagc ttggaagacc agggtggtta catactggag acagccaaga 1100
gctgagttata taaaaggagag ggaatgtgca ggaacagagg catttcctg 1150
ggtttggctc cccgttcctc actttccct tttcattccc accccctaga 1200
ctttgatTTT acggatatct tgcttctgtt ccccatggag ctccgaattc 1250
ttgcgtgtgt gtatgtgagg ggcggggac gggcgccagg cattgttcag 1300
acctggtcgg ggcccactgg aagcatccag aacagcacca ccatctta 1348

<210> 11
<211> 1348
<212> DNA
<213> Homo sapien

<400> 11
taagatggtg gtgctgttct ggatgcttcc agtggggccc gaccaggtct 50
gaacaatgcc tggcgcccggt ccccccggcc tcatactacac acacgcaaga 100
atccggagct ccatggggaa cagaagcaag atatccgtaa aatcaaagtgc 150
taggggggtgg gaatgaaaag ggaaaagtga ggaacggggga gccaaaccca 200

ggaagatgcc tctgttcctg cacattccct ctcccttata tactcagctc 250
 ttggctgtct ccagtatgta cccaccctgg tcttccaagg tgggagccac 300
 ttttataac acaatcacag tttcacaaac cccaggaagg ttccatgtgg 350
 agagaggtta agtttcgccc ttgccccggg aattatgaca ctcagaatat 400
 ccccttggtg taaatggaag acacctgcgc tatagcagct gtttaggcc 450
 cggtccgggt gggagggcat acttcttata catcggaaa gagtctcctg 500
 cttccttgg ccttctcgag acaccacctg acccatggtg aaagtacgt 550
 cttgaaacag gaccctggcta tacagcagat aaactccagc atcctggatt 600
 cggacaccat atccttgggc ctgttaggcct ctcccacgcc taagagctgg 650
 ttgccacatc acctctgtca catcggagtc atccttggag gtggcgttaa 700
 tggaaaccag gtgcaggaca gagtgctgct tcttctgttt ttgggtgagc 750
 actgctctcc tttccggga tctctccca ttctcccagg cttccaggggc 800
 atcggaaactc tgctccggga gactctgcca gggataaccct tccccattct 850
 gggagggggcc tcctgtcccc tgcagccggc tcacctctct cctgaggctc 900
 tgtagctctg tttgtgggt cagcagagcc atggcacaag ccacggccccc 950
 cagagctgcc ccccaactca accagagggc aactgagagt gccggctctc 1000
 tgactgggcc ccccatgttg cctggaggcc cttggggggc tagcaagaaa 1050
 ggagatgagg ctggcatgag ctggggaccc tgccaacagc tgtggttca 1100
 agagtgggt agcaaggagg tggcggggcg ggtaagggtt cggcagtg 1150
 tgcagaaggg aagaagggtt ttacgcaagg agaaataaaa aggaacttga 1200
 aaataaaaag gagggaggag gaaagcaagc taagggtact gtttagtgctc 1250
 ctggcactcc gtcgtggggc cagcgttgcc ttgagaccct ccaccctccc 1300
 tcagcctcag gagaattagg ttccagtcctc tctaggaagc ctcgttacc 1348

<210> 12
 <211> 250
 <212> PRT
 <213> Homo sapien

<400> 12														
Met	Pro	Ala	Ser	Ser	Pro	Phe	Leu	Leu	Ala	Pro	Lys	Gly	Pro	Pro
1														15
Gly	Asn	Met	Gly	Gly	Pro	Val	Arg	Glu	Pro	Ala	Leu	Ser	Val	Ala
														30
Leu	Trp	Leu	Ser	Trp	Gly	Ala	Ala	Leu	Gly	Ala	Val	Ala	Cys	Ala
														45
Met	Ala	Leu	Leu	Thr	Gln	Gln	Thr	Glu	Leu	Gln	Ser	Leu	Arg	Arg
														60

Glu	Val	Ser	Arg	Leu	Gln	Gly	Thr	Gly	Gly	Pro	Ser	Gln	Asn	Gly
				65				70					75	
Glu	Gly	Tyr	Pro	Trp	Gln	Ser	Leu	Pro	Glu	Gln	Ser	Ser	Asp	Ala
				80				85					90	
Leu	Glu	Ala	Trp	Glu	Asn	Gly	Glu	Arg	Ser	Arg	Lys	Arg	Arg	Ala
				95				100					105	
Val	Leu	Thr	Gln	Lys	Gln	Lys	Gln	His	Ser	Val	Leu	His	Leu	
				110				115					120	
Val	Pro	Ile	Asn	Ala	Thr	Ser	Lys	Asp	Asp	Ser	Asp	Val	Thr	Glu
				125				130					135	
Val	Met	Trp	Gln	Pro	Ala	Leu	Arg	Arg	Gly	Arg	Gly	Leu	Gln	Ala
				140				145					150	
Gln	Gly	Tyr	Gly	Val	Arg	Ile	Gln	Asp	Ala	Gly	Val	Tyr	Leu	Leu
				155				160					165	
Tyr	Ser	Gln	Val	Leu	Phe	Gln	Asp	Val	Thr	Phe	Thr	Met	Gly	Gln
				170				175					180	
Val	Val	Ser	Arg	Glu	Gly	Gln	Gly	Arg	Gln	Glu	Thr	Leu	Phe	Arg
				185				190					195	
Cys	Ile	Arg	Ser	Met	Pro	Ser	His	Pro	Asp	Arg	Ala	Tyr	Asn	Ser
				200				205					210	
Cys	Tyr	Ser	Ala	Gly	Val	Phe	His	Leu	His	Gln	Gly	Asp	Ile	Leu
				215				220					225	
Ser	Val	Ile	Ile	Pro	Arg	Ala	Arg	Ala	Lys	Leu	Asn	Leu	Ser	Pro
				230				235					240	
His	Gly	Thr	Phe	Leu	Gly	Phe	Val	Lys	Leu					
				245				250						

<210> 13

<211> 1239

<212> DNA

<213> Homo sapien

<400> 13

```

agcatcctga gtaatgagtgcctggcccg gagcaggcga ggtggccgga 50
gccgtgtgga ccaggaggag cgctggtcac tcagctgccg caaggagcaa 100
ggcaagttct atgaccatct cctgaggacat tgcattcact gtgcctccat 150
ctgtggacag caccctaagc aatgtgcata cttctgtgag aacaagctca 200
ggagcccagt gaaccttcca ccagagctca ggagacagcg gagtggagaa 250
gttgaaaaca attcagacaa ctcggaaagg taccaggat tggagcacag 300
aggctcagaa gcaagtccag ctctccgggg gctgaagctg agtgcagatc 350
aggtggccct ggtctacagc acgctggggc tctgcctgtg tgccgtcctc 400
tgctgcttcc tggtggcggt ggcctgcttc ctcaagaaga gggggatcc 450

```

ctgctcctgc cagccccgt caaggccccg tcaaagtccg gccaagtctt 500
cccaggatca cgcgatggaa gccggcagcc ctgtgagcac atcccccgag 550
ccagtgaga cctgcagctt ctgcttcct gagtgccagg cgccccacgca 600
ggagagcgca gtcacgcctg ggaccccgga ccccacttgt gctggaaggt 650
gggggtgcca caccaggacc acagtccctgc agccttgcac acacatccca 700
gacagtggcc ttggcattgt gtgtgtgcct gcccaggagg ggggcccagg 750
tgcataaatg ggggtcaggg agggaaagga ggagggagag agatggagag 800
gaggggagag agaaagagag gtggggagag gggagagaga tatgaggaga 850
gagagacaga ggaggcagaa agggagagaa acagaggaga cagagaggaa 900
gagagagaca gagggagaga gagacagagg ggaagagagg cagagaggaa 950
aagaggcaga gaaggaaaga gacaggcaga gaaggagaga ggcagagagg 1000
gagagaggca gagagggaga gaggcagaga gacagagagg gagagaggaa 1050
cagagagaga tagagcagga ggtcgccccca ctctgagtcc cagttccct 1100
tgcagctgta ggtcgcatc acctaaccac acgtgcaata aagtccctgt 1150
gcctgctgct cacagcccc gagagccct cctcctggag aataaaacct 1200
ttggcagctg cccttcctca aaaaaaaaaaaaaaaa 1239

<210> 14
<211> 246
<212> PRT
<213> Homo sapien

<400> 14
Met Ser Gly Leu Gly Arg Ser Arg Arg Gly Gly Arg Ser Arg Val
1 5 10 15
Asp Gln Glu Glu Arg Trp Ser Leu Ser Cys Arg Lys Glu Gln Gly
20 25 30
Lys Phe Tyr Asp His Leu Leu Arg Asp Cys Ile Ser Cys Ala Ser
35 40 45
Ile Cys Gly Gln His Pro Lys Gln Cys Ala Tyr Phe Cys Glu Asn
50 55 60
Lys Leu Arg Ser Pro Val Asn Leu Pro Pro Glu Leu Arg Arg Gln
65 70 75
Arg Ser Gly Glu Val Glu Asn Asn Ser Asp Asn Ser Gly Arg Tyr
80 85 90
Gln Gly Leu Glu His Arg Gly Ser Glu Ala Ser Pro Ala Leu Pro
95 100 105
Gly Leu Lys Leu Ser Ala Asp Gln Val Ala Leu Val Tyr Ser Thr
110 115 120

Leu	Gly	Leu	Cys	Leu	Cys	Ala	Val	Leu	Cys	Cys	Phe	Leu	Val	Ala
125								130						135
Val	Ala	Cys	Phe	Leu	Lys	Lys	Arg	Gly	Asp	Pro	Cys	Ser	Cys	Gln
	140							145						150
Pro	Arg	Ser	Arg	Pro	Arg	Gln	Ser	Pro	Ala	Lys	Ser	Ser	Gln	Asp
	155							160						165
His	Ala	Met	Glu	Ala	Gly	Ser	Pro	Val	Ser	Thr	Ser	Pro	Glu	Pro
	170							175						180
Val	Glu	Thr	Cys	Ser	Phe	Cys	Phe	Pro	Glu	Cys	Arg	Ala	Pro	Thr
	185							190						195
Gln	Glu	Ser	Ala	Val	Thr	Pro	Gly	Thr	Pro	Asp	Pro	Thr	Cys	Ala
	200							205						210
Gly	Arg	Trp	Gly	Cys	His	Thr	Arg	Thr	Thr	Val	Leu	Gln	Pro	Cys
	215							220						225
Pro	His	Ile	Pro	Asp	Ser	Gly	Leu	Gly	Ile	Val	Cys	Val	Pro	Ala
	230							235						240
Gln	Glu	Gly	Gly	Pro	Gly									
	245													

<210> 15
<211> 595
<212> DNA
<213> Homo sapien

<400> 15
cgtcggcacc atgaggcgag ggcccccggag cctgcggggc agggacgcgc 50
cagcccccac gcctgcgtc ccggccgagt gtttcgacct gctggtccgc 100
caactgcgtgg cctgcgggct cctgcgcacg ccgcggccga aaccggccgg 150
ggccagcagc cctgcgcccc ggacggcgct gcagccgcag gagtcggtg 200
gcgcgggggc cggcgaggcg gcgctgcccc tgcccggtct gctctttggc 250
gcgcgggggc tgctgggcct ggcactggtc ctggcgctgg tcctggtg 300
tctggtgagc tggaggcgcc gacagcggcg gtttcgcggc gcgtcctcc 350
cagaggcccc cgacggagac aaggacgccc cagagcccc ggacaaggc 400
atcattctgt ctccggaaat ctctgatgcc acagctcctg cctggcctcc 450
tcctgggaa gaccaggaa ccacccacc tggccacagt gtccctgtgc 500
cagccacaga gctgggctcc actgaactgg tgaccaccaa gacggccggc 550
cctgagcaac aatagcaggc agccggcagg aggtggcccc tgccc 595

<210> 16
<211> 184
<212> PRT
<213> Homo sapien

<400> 16

Met	Arg	Arg	Gly	Pro	Arg	Ser	Leu	Arg	Gly	Arg	Asp	Ala	Pro	Ala
1				5				10					15	
Pro	Thr	Pro	Cys	Val	Pro	Ala	Glu	Cys	Phe	Asp	Leu	Leu	Val	Arg
				20				25					30	
His	Cys	Val	Ala	Cys	Gly	Leu	Leu	Arg	Thr	Pro	Arg	Pro	Lys	Pro
				35				40					45	
Ala	Gly	Ala	Ser	Ser	Pro	Ala	Pro	Arg	Thr	Ala	Leu	Gln	Pro	Gln
				50				55					60	
Glu	Ser	Val	Gly	Ala	Gly	Ala	Gly	Glu	Ala	Ala	Leu	Pro	Leu	Pro
				65				70					75	
Gly	Leu	Leu	Phe	Gly	Ala	Pro	Ala	Leu	Leu	Gly	Leu	Ala	Leu	Val
				80				85					90	
Leu	Ala	Leu	Val	Leu	Val	Gly	Leu	Val	Ser	Trp	Arg	Arg	Arg	Gln
				95				100					105	
Arg	Arg	Leu	Arg	Gly	Ala	Ser	Ser	Ala	Glu	Ala	Pro	Asp	Gly	Asp
				110				115					120	
Lys	Asp	Ala	Pro	Glu	Pro	Leu	Asp	Lys	Val	Ile	Ile	Leu	Ser	Pro
				125				130					135	
Gly	Ile	Ser	Asp	Ala	Thr	Ala	Pro	Ala	Trp	Pro	Pro	Pro	Gly	Glu
				140				145					150	
Asp	Pro	Gly	Thr	Thr	Pro	Pro	Gly	His	Ser	Val	Pro	Val	Pro	Ala
				155				160					165	
Thr	Glu	Leu	Gly	Ser	Thr	Glu	Leu	Val	Thr	Thr	Lys	Thr	Ala	Gly
				170				175					180	
Pro	Glu	Gln	Gln											

<210> 17
<211> 265
<212> PRT
<213> Homo sapien

<400> 17														
Met	Ser	Gly	Leu	Gly	Arg	Ser	Arg	Arg	Gly	Gly	Arg	Ser	Arg	Val
1				5				10					15	
Asp	Gln	Glu	Glu	Arg	Phe	Pro	Gln	Gly	Leu	Trp	Thr	Gly	Val	Ala
				20				25					30	
Met	Arg	Ser	Cys	Pro	Glu	Glu	Gln	Tyr	Trp	Asp	Pro	Leu	Leu	Gly
				35				40					45	
Thr	Cys	Met	Ser	Cys	Lys	Thr	Ile	Cys	Asn	His	Gln	Ser	Gln	Arg
				50				55					60	
Thr	Cys	Ala	Ala	Phe	Cys	Arg	Ser	Leu	Ser	Cys	Arg	Lys	Glu	Gln
				65				70					75	
Gly	Lys	Phe	Tyr	Asp	His	Leu	Leu	Arg	Asp	Cys	Ile	Ser	Cys	Ala
				80				85					90	

Ser Ile Cys Gly Gln His Pro Lys Gln Cys Ala Tyr Phe Cys Glu
95 100 105

Asn Lys Leu Arg Ser Pro Val Asn Leu Pro Pro Glu Leu Arg Arg
110 115 120

Gln Arg Ser Gly Glu Val Glu Asn Asn Ser Asp Asn Ser Gly Arg
125 130 135

Tyr Gln Gly Leu Glu His Arg Gly Ser Glu Ala Ser Pro Ala Leu
140 145 150

Pro Gly Leu Lys Leu Ser Ala Asp Gln Val Ala Leu Val Tyr Ser
155 160 165

Thr Leu Gly Leu Cys Leu Cys Ala Val Leu Cys Cys Phe Leu Val
170 175 180

Ala Val Ala Cys Phe Leu Lys Lys Arg Gly Asp Pro Cys Ser Cys
185 190 195

Gln Pro Arg Ser Arg Pro Arg Gln Ser Pro Ala Lys Ser Ser Gln
200 205 210

Asp His Ala Met Glu Ala Gly Ser Pro Val Ser Thr Ser Pro Glu
215 220 225

Pro Val Glu Thr Cys Ser Phe Cys Phe Pro Glu Cys Arg Ala Pro
230 235 240

Thr Gln Glu Ser Ala Val Thr Pro Gly Thr Pro Asp Pro Thr Cys
245 250 255

Ala Gly Arg Thr Ala Pro Pro Arg Glu Gly
260 265